Elitech CP-6000N

Elitech CP-6000N Current Monitoring Relay User Manual

Model: CP-6000N

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Elitech CP-6000N Current Monitoring Relay. The CP-6000N is designed for comprehensive electrical system protection, offering current monitoring, overload protection, phase monitoring, and temperature control capabilities with RS-485 communication.

2. SAFETY INFORMATION

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in equipment damage, personal injury, or death. Only qualified personnel should perform installation and maintenance.

- Disconnect all power sources before wiring or servicing the device.
- Ensure proper grounding to prevent electrical shock.
- Verify all connections are secure and correct according to the wiring diagram.
- Do not operate the device in environments exceeding its specified operating conditions.

3. PRODUCT OVERVIEW

The Elitech CP-6000N is an advanced current monitoring relay offering robust protection features for industrial and commercial applications. It integrates new phase sequence detection, phase loss protection, unbalance, and overload protection. With a three-phase current detection capability up to 200A and RS-485 communication, it allows for real-time remote monitoring.

Figure 1: Front view of the Elitech CP-6000N Current Monitoring Relay, showing the digital display and control buttons.

Figure 2: Icons representing key features of the CP-6000N, including phase sequence, phase loss, unbalance, overload protection, 220A maximum current, RS-485 communication, and alarm function.

4. FEATURES

- New phase sequence detection and protection design.
- Phase loss protection.
- Unbalance protection.
- Overload protection.
- Three-phase current detection, with over-current protection up to 200A.
- Higher measurement accuracy: up to ±2A (0-30A).
- RS-485 communication function for remote monitoring of compressor running status.
- Current measurement range: 2-80A; 30-200A.

5. SPECIFICATIONS

Specification	Value
Brand	Elitech
Model	CP-6000N-SP-220V
Mounting Type	DIN Rail Mount
Backlight	Yes
Connector Type	Screw
Contact Material	Silver
Contact Type	Normally Closed
Current Rating	200 Amps
Operation Mode	Automatic
Certifications	CE, UL
UPC	781454242306

6. SETUP AND INSTALLATION

6.1 Mounting

The Elitech CP-6000N is designed for DIN Rail mounting. Ensure the DIN rail is securely installed in a suitable enclosure, providing adequate ventilation and protection from environmental factors.

Figure 3: Mounting dimensions of the CP-6000N, indicating a width of 2.8 inches and a height of 1.14 inches.

6.2 Wiring Diagram

Follow the wiring diagram carefully to ensure correct power supply, current sensor connections, and RS-485 communication. Incorrect wiring can lead to malfunction or damage.
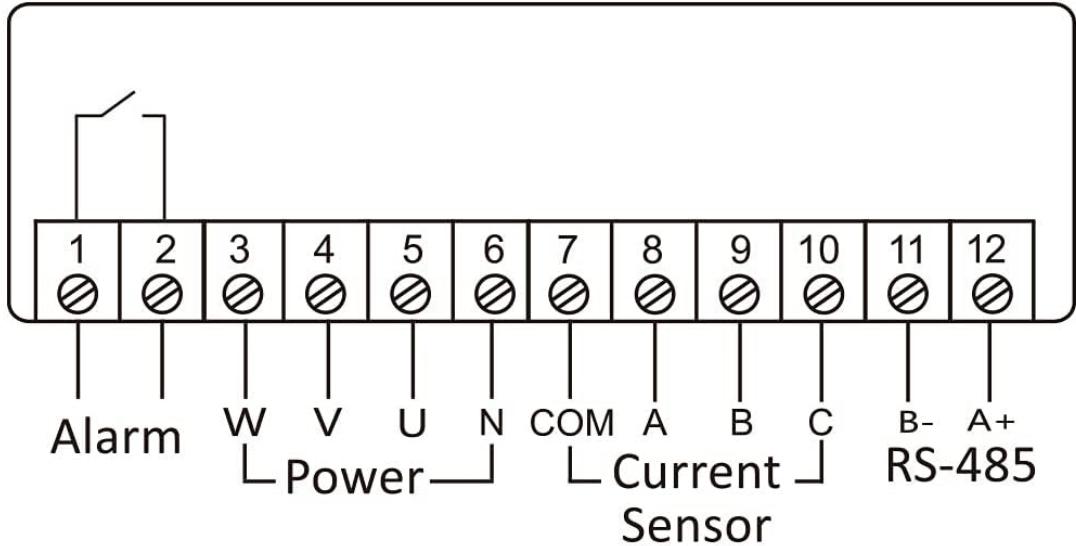
Figure 4: Wiring diagram for the CP-6000N, showing terminals for Alarm, Power (W, V, U, N), Current Sensor (COM, A, B, C), and RS-485 (B-, A+).

Terminal Descriptions:

- **1-2:** Alarm output contacts.
- **3-6 (W, V, U, N):** Three-phase power input.
- **7 (COM):** Common terminal for current sensors.
- **8-10 (A, B, C):** Current sensor inputs for phases A, B, and C.
- **11-12 (B-, A+):** RS-485 communication terminals.

7. OPERATING INSTRUCTIONS

7.1 Basic Operation

The CP-6000N features a digital display and several buttons for configuration and monitoring.

Figure 5: A hand interacting with the control buttons of the CP-6000N, highlighting ease of use.

- **Set/View Button:** Press to enter parameter setting mode or view different parameters.
- **Esc Button:** Press to exit the current menu or cancel an operation.
- **Up/Down Arrows:** Use to navigate through menu options or adjust parameter values.

7.2 Current Monitoring

The device continuously monitors the three-phase current. The current measurement range is 2-80A or 30-200A, depending on the specific model variant. The digital display shows the measured current values.

7.3 RS-485 Communication

The integrated RS-485 communication function allows the CP-6000N to be connected to a network for remote monitoring. This enables real-time tracking of compressor status and other operational data. Refer to the RS-485 communication protocol document for detailed integration instructions.

8. MAINTENANCE

The Elitech CP-6000N is designed for reliable operation with minimal maintenance. However, periodic checks are recommended to ensure optimal performance and longevity.

- **Visual Inspection:** Regularly inspect the device for any signs of physical damage, loose connections, or overheating.
- **Cleaning:** Keep the device clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.

- **Connection Checks:** Periodically verify that all wiring connections are secure.

9. TROUBLESHOOTING

If the CP-6000N exhibits unexpected behavior or displays fault codes, refer to the following information.

No.	Fault Code	Meaning
1	EPS	Phase sequence error
2	EPL	Phase loss protection
3	EoL	Overload protection
4	EUb	Unbalance protection

Figure 6: Table of fault codes and their meanings for the CP-6000N.

No.	Fault Code	Meaning
1	EPS	Phase sequence error
2	EPL	Phase loss protection
3	EoL	Overload protection
4	EUb	Unbalance protection

General Troubleshooting Tips:

- **No Power:** Check power supply connections and circuit breakers.
- **Incorrect Readings:** Verify current sensor connections and calibration settings.
- **Communication Issues:** Check RS-485 wiring, baud rate, and address settings.

10. WARRANTY AND SUPPORT

Elitech products are manufactured to high-quality standards and are backed by a manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official Elitech website.

For technical support, troubleshooting assistance, or service inquiries, please contact Elitech customer service through their official website or the contact information provided with your purchase.

Related Documents - CP-6000N

	[Elitech Industrial Refrigeration and Process Temperature Control Solutions](#) Elitech offers a comprehensive range of temperature control solutions for industrial refrigeration and process applications. This document details various thermostats, electrical control panels, and all-purpose protectors, highlighting their features, technical specifications, and application scenarios.
	[Elitech RCW-600WIFI IoT Temperature Monitor User Manual](#) User manual for the Elitech RCW-600WIFI, a two-channel IoT temperature monitor with WiFi connectivity for remote data viewing, monitoring, and management in food, catering, logistics, and HACCP industries.
	[RCW-2000/2100/2200 User Manual - Elitech Wireless Temperature and Humidity Monitoring System](#) User manual for the Elitech RCW-2000 (Wi-Fi Gateway), RCW-2100, and RCW-2200 wireless temperature and humidity sensors. This guide covers technical specifications, appearance, indicator status, Elitech app setup, and cloud portal access for remote monitoring.
	[Elitech DR-230 Temperature and Humidity Recorder Instructions](#) User manual and instructions for the Elitech DR-230 temperature and humidity recorder, detailing product features, interface, technical specifications, setup, and operation using the Elitech iCold mobile application for monitoring and data logging.
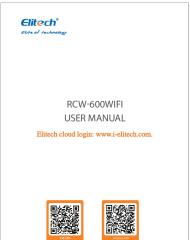
TI-3S manual *Platform login website: https://new.i-elitech.com*	**[Elitech TI-3S Temperature Tag User Manual](#)** Comprehensive user manual for the Elitech TI-3S flexible temperature tag, detailing product overview, technical specifications, operation steps for recording and reading data via NFC/UHF, and essential precautions for cold chain monitoring applications.
	[Elitech RC-5+ Temperature Data Logger: User Manual and Specifications](#) This manual provides detailed instructions for using the Elitech RC-5+ USB temperature data logger, covering setup, operation, data download, and analysis with Elitech software. Features and technical specifications are also included.